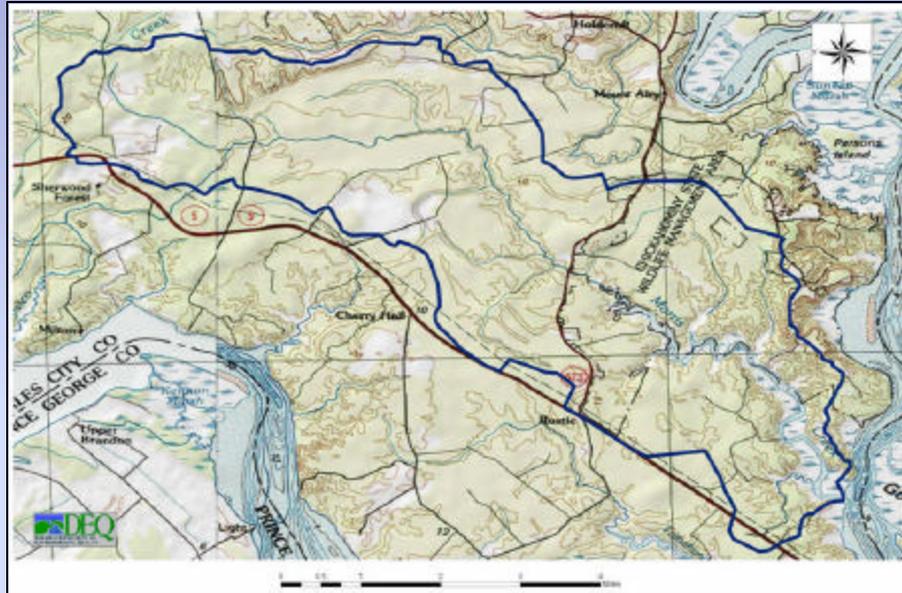


TMDL Implementation Plan Overview

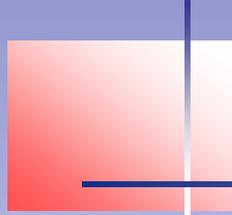


Morris Creek

Department of Conservation and
Recreation-

Richmond Regional Office

July 15, 2009

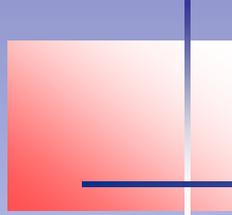
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The TMDL Process: 3 Steps

(1) TMDL study

**(2) TMDL implementation plan
development (clean-up plan)**

(3) Implement plan

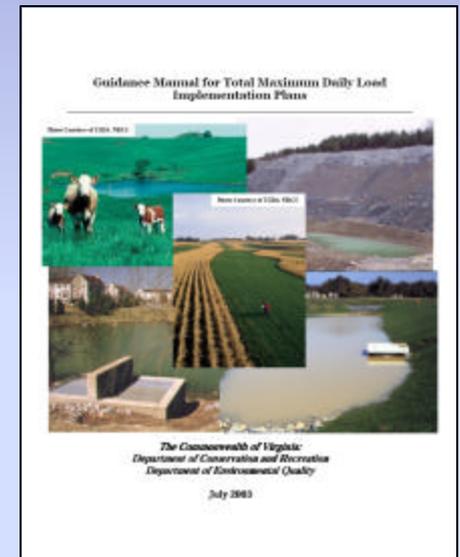
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What is a TMDL Implementation Plan?

- TMDL study tells us WHAT we need to do, Implementation Plan tells us HOW.
- Outlines actions that can be taken to meet TMDL load allocations.
- Serves as a guide for implementation efforts.

Why Implementation Plans?

- Implementation Plan development is required by state legislation
- Supported by federal, state and local organizations
- Procedures outlined in DCR & DEQ Implementation Plan Guidance Document



Implementation Plan Development

- Implementation Plan is done **locally**

- Stakeholders have the opportunity to participate in the plan development
 - Public meetings
 - Working groups
 - Steering committee



Integrating the IP with other Watershed Plans

- Need to account for and **acknowledge** other planning activities within City and the watersheds

- Coordinate with other water quality plans:
 - Watershed and City plans
 - Local Comprehensive Plans
 - Water Supply Plans

What is included in an Implementation Plan?

- Control measures to reduce pollution
- Cost/Benefit Analysis
- Measurable Goals and Milestones
- Timeline to achieve water quality goals
- Public Participation
- Funding Sources

Potential Control Measures: Residential/Urban

- Septic tank pump-out, repair and maintenance
- Removal of straight pipes
- Pet waste collection and disposal
- Bio-retention, Re-use of rainwater
- Stormwater management
 - (Ponds, Parking Lot Storage, Vegetated Swales, Infiltration Basins etc.)



Potential Control Measures: Agriculture

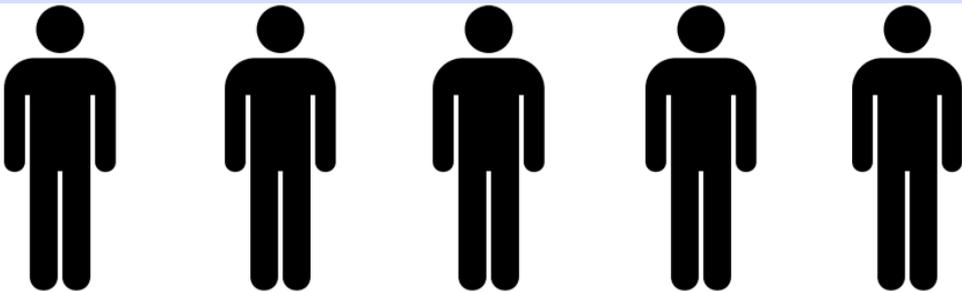
- Animal Waste Control Facility
- Riparian Buffers
- Exclusion of livestock from stream
- Pasture Management
- Conservation Tillage



Fecal Bacteria Production Comparison – # of Animals Equivalent to 1 Dairy Milker:



=



- 2 dairy heifers
- 5 humans
- 6 beef stockers
- 7 horses
- 7 hogs
- 16 racoons
- 51 dogs
- 78 muskrats
- 263 geese
- 317 sheep
- 382 goats
- 28,225 ducks
- 34,764 turkeys
- 74,090 beavers
- 84,674,062 cats

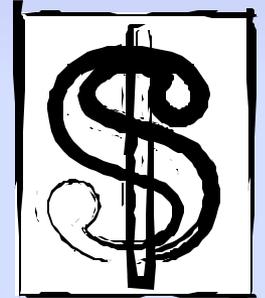
Public Participation

- Public Meetings
 - Solicit public participation
 - Provide a forum for public comment
- Steering Committee
 - Direct the overall process
- Working Groups
(Residential, Governmental & Agricultural)
 - Address “community” issues/concerns



Potential Funding Sources for Best Management Practices:

- Water Quality Improvement Fund (WQIF)
- Competitive/RFP grants
- National Fish and Wildlife Foundation
- USDA programs – CREP/EQIP
- State Revolving Loan Funds
- State Cost-Share Program and Tax Credits
- Landowners Contributions



**Funding opportunities for BMPs increase
when a TMDL Implementation Plan is
developed for a watershed.**

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The Funding Challenge

- The 2006-2008 General Assembly appropriated funds to be targeted to TMDL impaired stream segments, but can only use funds for Agricultural BMP implementation, not implementation plan development
- Exploring all possible funding sources for IP development and for urban/residential BMPs is big a challenge.

What can be done in the meantime?

- Show interest in project implementation to state agencies (comments to both DCR/DEQ)
- Continue BMP implementation locally
- Initiate outreach activities throughout the watershed
- Continue stream monitoring
- Identify funding opportunities and partnerships



Currently, 22 IP's completed, for 60 impaired stream segments

- * Roanoke (6); Shenandoah (5)
James (3); New River (3)
Tennessee – Big Sandy (2); Potomac (1)
Rappahannock (1); Chesapeake Bay Coastal (1)

- * Five IPs under development as July 2009: Upper Hazel River;
Long Glade, Mossy Creek & Naked Creek; Ash Camp and Twittys
Creeks; Middle River; and Greenvale & Beach Creek.

- * DEQ has prepared approximately 14 IPs

- * DCR and DEQ have completed 2 IPs together



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